

Yakutat Looks to Wave Power

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Ed Schoenfeld/CoastAlaska

Most rural Alaska communities use diesel generators to create electrical power. But fuel is expensive, so they're trying out alternatives. Yakutat, on the eastern Gulf of Alaska, wants wave power. A project in the works for several years just won a key permit. But it still faces substantial barriers. CoastAlaska's Ed Schoenfeld reports.

Enthusiasts from around the world have traveled to Yakutat's remote beaches to catch a wave – in wetsuits. Now, the community, hundreds of miles away from the nearest grid, wants to make another use of that power.

Rose (:07) If we're able to convert that energy that's pounding on our shores and displace diesel, the state's going to save a lot of money.

Chris Rose is the founder and executive director of REAP, the Renewable Alaska Energy Project.

Rose (:06) We're a place that makes sense to test this stuff, because we have higher energy costs than a lot of other places.

Ryman (:03) The bottom line is we have to get away from diesel.

Skip Ryman is manager of the Yakutat Borough, about halfway between Juneau and Cordova. He says the municipal power plant sells electricity for about 57 cents a kilowatt hour. The state's Power Cost Equalization Program halves the residential price. But still …

Ryman (:19) People are finding that anywhere from 45 to 60 percent of

their disposable income has been going for utilities and home heating. This in turn is hurting retailers. We've been losing families, losing kids in the school system and essentially sending the community into a bit of a death spiral.

Yakutat has been interested in wave energy for some time. A study completed in 2009 recommended devices installed near the shore, rather than fatter out into the ocean.

Goudey (:06) The device that we're working on is called an oscillating wave surge converter.

Cliff Goudey is senior engineer for Massachusetts-based Resolute Marine Energy.

Goudey (:17) That's sort of a fancy word for a paddle that sits on the bottom, that's hinged at the bottom, the hinge being parallel to the shoreline. And so as the surge of the waves pass over the top, the paddle gets pushed toward the beach and then back and forth.

The company is working with federal, state and local officials to research and fund the Yakutat project. It will use Resolute's Surge Wave Energy Converter, which powers hydraulic pumps, which drive a generator.

The device has been tested off the North Carolina coast. But it doesn't have a track record. Neither does its competitors.

Batten (:05) In terms of commercial arrays of wave-energy devices, they currently don't exist anywhere in the world.

Oregon State University's Belinda Batten is director of the Northwest National Marine Renewable Energy Center. She says Scotland has taken the lead, testing a number of different devices and systems at a major research facility.

Batten (:16) Until we really get the first arrays of small devices in and producing energy over some time where we learn operating and maintenance costs, reliability, sustainability and those kind of those kinds of things, it'll be tough to call the winners.

Resolute Marine Energy was recently granted a preliminary permit allowing more research and planning. But it still must clear other regulatory hurdles. The company and its partners also need to address environmental impacts and conflicts with other users of the area. There's the surfers, of course. Borough Manager Ryman says that's not all.

Ryman (10) It is an area used by trollers. You have whale migration off shore. There's some concern about the noise these may be making and how that might interfere with whale migrations.

An Oregon wave-energy proposal has drawn opposition from crabbers and recreational boaters. Yakutat's project is being designed to meet the community's power needs for much of the year. Ryman says diesel generators would fill the gap when needed, especially when the local fish processor operates.

This is Ed Schoenfeld, reporting from Juneau.